This site is not on the CCL and may be reviewed as a type I FYR

DRAFT

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Construction Completion List

FIVE-YEAR REVIEW REPORT

Site: Syntex-Verona
ID # MOD007452154
Break: 8.4
Other:
6-95

Acetone issue

Five-year reviews should cover the entire site

SYNTEX VERONA FACILITY

~~OPERABLE UNIT 1~~

VERONA, MISSOURI

Valerie wants to see GW monitoring data.

Prepared By:

United States Environmental Protection Agency

Region VII

Kansas City, Kansas

June 1995

Please send copy of signed final review to:
Hugo Fleischman - 1 of
Mail Code - 5203

Thanks

OU 2 should also be discussed

I. INTRODUCTION

Section 121(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and as implemented by section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) requires that periodic (at least once every five years) reviews be conducted for sites, where hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use or unrestricted exposure, following the completion of all response actions for the site. The purpose of such review is to determine the continued adequacy of the response actions implemented in providing protection of human health, welfare and the environment. This report presents the Five Year Review for the remedial action for operable unit #1 (OU 1) of the Syntex facility site near Verona, Missouri.

The five-year review is to be conducted by the lead agency which is the United States Environmental Protection Agency, Region 7 (EPA), for the Syntex Verona Facility Site. ~~In general,~~ five-year reviews are to be started within five years of the initiation of the final response actions for the site.

For statutory and like this one,

The EPA has established three levels of review for five-year reviews. Level I is the lowest level of evaluation of protectiveness, Level II is the intermediate level, and Level III is the highest level of evaluation of protectiveness. A Level I analysis will be appropriate in all but a relatively few cases where site-specific circumstances suggest another level. For example the absence of the expected reduction in contaminant levels, as monitored, may suggest a Level II evaluation of the source control remedial component. Level III will ~~never be~~ rarely proposed until the review is underway and site conditions dictate a more intensive review of the remedy. Site specific considerations, including the nature of the response action, the status of onsite response activities, and the proximity to populated areas and sensitive environmental areas determine the level of review for a given site. A Level I review is appropriate for the Syntex Verona OU 1 remedial action based on the reduced levels of dioxin found in Spring River fish, the reduction of toxicity achieved at the site through remediation of dioxin contaminated soils, and the contaminant reduction achieved through decontamination of dioxin contaminated equipment. In general, the remedy has performed as expected with the exception of the final disposal of the dioxin contaminated equipment and solvents used in the decontamination process.

approval of the Director of the Missouri Department of Natural Resources.

II. REMEDIAL OBJECTIVES

Remedial action objectives consist of medium-specific or operable unit specific goals for protecting human health and the environment. Although the remedial objectives were not specifically delineated in the ROD for OU 1 the following were the remedial objectives for the activities conducted at the Syntex Verona site:

A. Reduce exposure to contaminated soils at the site, specifically dioxin contamination.

B. Reduce contamination of onsite groundwater by addressing contaminated soils.

C. Reduce exposure to materials and equipment contaminated with dioxin.

D. Reduce exposure to dioxin in fish in the Spring River.

Objectives A and B were addressed by excavation and removal of the contaminated soils in the Burn, Irrigation, Lagoon and Slough areas. All soils above 20 ppb dioxin were removed and transported to the EPA Mobile Incineration System located at Denny Farm in southwest Missouri. These two objectives were also addressed with regard to the Trench area. The contamination in the Trench area was capped and a gravel drainage interception trench was constructed. In addition, ground water monitoring wells were placed around the Trench area to monitor any contaminant migration. The ground water monitoring has shown no dioxin contamination. The contamination of the ground water is being addressed in a separate operable unit. The contaminated soils in the Spill area will be removed after the contaminated NEPACCO and photolysis equipment in this area is removed. Since the remedial action is still ongoing these two objectives have not been fully met.

Objective C was addressed as part of the remedial action by decontamination of contaminated equipment used in the production processes. Three types of forced velocity washes were done on the NEPACCO and photolysis equipment depending on the type of service the equipment was in during its last use. Either a detergent, solvent, or acid wash was done on the equipment or a combination of the three. After cleaning, the exterior of the equipment was wipe sampled to determine contaminant concentrations. Approximately 75% of the equipment has been cleaned and is awaiting disposal. Syntex is currently attempting

Rational
for
type
7A
waiver
2. NO CCL listing

to provide for proper disposal under the Land Disposal Restrictions for Hazardous Debris. Once the equipment is approved for disposal, the equipment will be removed and the remediation of the Spill area will be completed.

The human consumption of fish from Spring River which had been exposed to dioxin contamination was restricted in order to address objective D. Concurrent with the remedial action for OU 1, the Missouri Department of Health (MDOH) issued a health advisory against consuming fish caught from the Spring River adjacent and downstream from the facility. Fish sampling was conducted annually to monitor dioxin concentrations in fish tissues. Analysis of fish fillets indicated a maximum level of 40 parts per trillion (ppt) dioxin in 1982, which had decreased to 4.8 ppt dioxin by 1987. Sampling data collected following implementation of the OU 1 remedial action suggest that dioxin concentrations in fish fillets have been further reduced. This data prompted MDOH, on May 18, 1993 to rescind the health advisory on the consumption of Spring River fish.

III. ARARs REVIEW — not necessary now

An identification of Applicable or Relevant and Appropriate Requirements (ARARs) was conducted for the Syntex Verona site as part of the ROD. There has been no new information since the ROD to change the assessment of ARARs done in the ROD. The remedy as implemented complies with the ARARs identified in the ROD. However, on August 18, 1992 (Federal Register Volume 57, Number 160), EPA promulgated Land Disposal Restrictions for Hazardous Debris. The equipment being decontaminated as part of this remedial action falls under the regulation of these new rules. Therefore, Syntex is complying with the new Land Disposal Restrictions in order to provide for proper disposal of the contaminated equipment.

IV. SUMMARY OF SITE VISIT

Site visits have been performed on a regular basis by EPA representatives through field oversight of quarterly ground water sampling activities required to conduct the RI/FS for OU 2. In addition, the site is an active RCRA facility and annual inspections are conducted by the MDNR. A field inspection of the site and interviews of the plant personnel regarding operation and maintenance of the remediated areas was conduoted in March 1993 by members of the MDNR and MDOH. Interviews conducted during that inspection confirmed that land use restrictions were still in place and that the site remains on the State of Missouri Registry of Abandoned or Uncontrolled Hazardous Waste Disposal Sites.

also OK/not but required since there are others there and other reports

The site was visited on June 8, 1995, by the remedial project manager (RPM). The purpose of the visit was to perform an inspection for the final completion of the five year review. A representative of the MDNR accompanied the RPM on this site visit. During the site visit the RPM made the following observations relating to the current status of the Site and the continued protectiveness of the Response Actions:

A. The soil and vegetative covers were intact and in good condition. Very thick vegetation was found in all areas of soil removal.

B. The fence around the site was guarded and in good condition.

C. The monitoring wells on the site were observed and looked to be in good condition and functional. Three new ground water monitoring wells were installed under the NPDES permit.

D. The Spill area and Irrigation area were identified as exclusion zones due to the presence of dioxin contamination in these areas. The equipment being addressed by this action was located in the Spill area and the Irrigation area. Some equipment had been placed in the Irrigation area after the contaminated soil had been removed from the area and the area capped. Since the equipment was placed on the cap, once the equipment is removed from the Irrigation area the integrity of the cap will need to be determined. No visible signs of any problems with the integrity of the Irrigation area cap were observed. A large covered building adjacent to the Irrigation area will be used for the remaining decontamination of the equipment. This building houses some of the equipment along with contaminated water used in the decontamination process. Drums of wastes are also stored in this building. Syntex is planning proper disposal of the contaminated water and drummed wastes. The remainder of the equipment is laying on the ground in the Spill and Irrigation areas. Much of the equipment has been cut up into smaller pieces for easier handling. All of the equipment has specific identification numbers.

V. AREAS OF NON COMPLIANCE

No areas of noncompliance with the remedial action objectives of OU 1 were noted at the site. Syntex has initiated negotiations with a RCRA permitted facility to accept the CERCLA hazardous wastes presently stored onsite. The treated NEPACCO

and photolysis process equipment is presently stored onsite awaiting determination of final disposition. The untreated equipment will be treated and disposed.

No deficiencies or deterioration in the Response Actions for the Site were found in this five-year review. The soil and vegetative cover are intact. Land use has not changed for the site since the initiation of the response actions and no future changes are anticipated from the original industrial use. No specific or general deficiencies were identified in this five-year review which need to be addressed.

VI. RECOMMENDATIONS/TECHNOLOGY

This is more references

In addition to the Site visits, the following documents, data and information were reviewed in completing the five-year review:

A. The two RODs, in which EPA determined the final response actions at the site for operable units 1 and 2, including all attachments.

B. The Implementation Plan.

C. The 1983 Consent Agreement between EPA and Syntex.

D. The Land Disposal Restrictions for Hazardous Debris.

E. Historical and current analytical data on the Site including the most recent analytical data on the groundwater samples collected by Syntex.

F. EPA guidance for conducting five-year reviews and other guidance and regulations to determine if any new applicable or relevant and appropriate requirements (ARARs) existed relating to the protectiveness of the Remedy.

EPA also consulted with the Missouri Department of Natural Resources both before and after initiating the five-year review to solicit their opinions.

Based on the site visit and document review the recommendations identified for the Syntex Verona site OU 1 are as follows:

1. Continued maintenance of the capped areas and vegetative cover.

2. Continued monitoring of the groundwater around the Trench area.

3. Completion of decontamination of the NEPACCO and photolysis equipment and proper disposal of this equipment.

4. Excavation of the contaminated soil in the Spill area exceeding 20 ppb dioxin and disposal as per the ROD. The Spill area would be backfilled with clean topsoil and vegetated.

5. Inspection of the cap in the Irrigation area to insure its integrity, after removal of the equipment. and any necessary repairs will be made to ensure protectiveness

All technologies involved in these recommendations are well established technologies so no technological problems are anticipated. No other recommendations or actions are necessary at this time. Confirmation of State & Federal

VII. ~~STATEMENT ON~~ PROTECTIVENESS — remedy is protective or not

The response actions completed by Syntex together with the future response actions and long-term maintenance and monitoring being provided by Syntex and the MDNR will continue to protect human health, welfare and the environment at this site. No new or significant information was discovered during this review to indicate that the remedy will not continue to be protective. The vegetative cover installed over the remediated dioxin management units has been adequately maintained and continues to perform as designed. Institutional controls placed on land use continue in place while access to the property has been restricted. Reduced dioxin levels in Spring River fish has prompted MDOH to repeal the health advisory against the consumption of fish caught from the Spring River.

VIII. NEXT REVIEW — 1st review was done by 5/07/93 — 2nd review due 5/07/98

EPA believes that five-year reviews will continue to be necessary at this Site, since hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use or unrestricted exposure. Accordingly, EPA plans to perform another five-year review beginning ~~in 2000.~~ 1998

IX. IMPLEMENTATION REQUIREMENTS

Since further actions are necessary to complete the remedial action for OU 1 at the Syntex Verona site, implementation requirements are obligatory. The implementation of the decontamination of the NEPACCO and photolysis equipment will

~~The~~ note of implementation requirements & proposed schedule to implement recommendations, if known, & describe who will implement recommendations

proceed pursuant to the approved procedures in the Implementation Plan for equipment decon. Once all of the equipment has been decontaminated it will be properly disposed pursuant to the Land Disposal Restrictions for Hazardous Debris. Once the equipment is removed soils exceeding 20 ppb dioxin in the Spill area will be excavated and properly disposed. The Spill area will then be backfilled and vegetated to prevent erosion. The soil cap in the Irrigation area will be inspected to ensure that it is in good condition. The implementation of the ground water monitoring in the Trench area and maintenance of the other capped areas (Burn, Lagoon and Slough areas) will continue as it has since 1990. No problems with implementation are anticipated.

See comment pg 9.

Community Relations

EPA intends to develop a Fact Sheet after it signs this five year review report. This Fact Sheet will be sent to individuals or organizations on the mailing list developed for this site and will state that EPA has completed a five year review for this site. The Fact Sheet will also explain that the response actions taken to date and the planned future response actions for this site continue to protect human health, welfare and the environment and will note the next five year review is planned for 2000. The five year review report will be added to the administrative record.

X. QA/QC

Appropriate quality assurance and quality control procedures were performed in conjunction with all activities associated with the five year review. All activities maintained acceptable quality standards.

DRAFT

Dennis Grams
Regional Administrator

Date

FACSIMILE COVER SHEET

EPA U.S. Environmental Protection Agency

Office of Emergency and Remedial Response
Hazardous Site Control Division (5203G)
Washington, D.C. 20460

Date: 6/19/95 **Pages Transmitted (including cover)** 9

To: Steve Sanders

Region/Lab/Firm: USEPA - Reg. 7

Fax: 913/551-7063 **Phone:** 913/551-7578

From: Ken Skahn

Phone: 703/603-8801

Comments: 5-Year Review Report for Syntex Verona Site
Attached are the marked up pages [redacted]
(thus. Fleischman's comments). I am only sending
the pages w/ comments (Cover Sheet, 1, 5→10).
Call me if you can't decifer the writing,
Ken Skahn.

Transmitted from: Office of Emergency and Remedial Response
Hazardous Site Control Division
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